Efficacy Trials - Injection Method

Bohemian knotweed

Polygonum Cuspidatum Sieb. & Zucc.

Submitted:	Clark County Weed Management
	Philip Burgess, Director
Focus:	Efficacy Results of Injection Method used on Bohemian knotweed
Process:	Injection Method
Dates(s):	06/30/05
	East of Klineline Pond, North of 117th Street
Location(s):	Between Highway 99 and I-5

Method of Control:

Injection into 2nd segment above ground -
Two Plots using 4 mL of RoundUp Pro Concentrate at full strength
Seven Plots Using 6 mL RoundUp Pro Concentrate

Treatment Notes:

Two plots were set up - 4 mL of RPC injection; No small canes were present.
Seven plots were set up - 6 mL RPC injection. All plots had small canes with diameters too thin to inject. The small canes were left untreated to determine if RPC would transfer from the injected canes.

Control Results:

Herbicide Amount	Results
4 mL	Plots were checked on August 11. All 18 canes were brownish-black.
6 mL	Plots were checked on August 11 -- **Very good (98%) control** was achieved on the injected canes. A large number (41%) of untreated canes were also brown and withered. Five of the seven plots saw a small cane reduction of at least 50%. See attached spreadsheet for a breakdown by plot.

Non-target Effect:

Using 4 mL of RPC injection -- None
Using 6 mL of RPC injection -- None; bigleaf maple, alder, blackberry, etc. were growing among the injected canes, with no ill effects.

Conclusion/Recommendations

Using 4 mL of RPC injection -- Excellent (100%) control was achieved
It appears that RPC will control injected knotweed as well as Aquamaster.

Using 6 mL of RPC injection -- It appears that RPC will control injected knotweed as well as Aquamaster. In addition, it is possible that RPC will perform better than Aquamaster in its ability to transfer well to the rhizomes of outlying canes that are too small to inject.

Efficacy Trial Results On Bohemian knotweed ***4mL Roundup Pro Concentrate***	
Site name	North of 117th St, between Hwy 99 and I-5
Address	
Plot #	
Reference #	
Treatment Date	**June 30, 2005**
Treatment Method:	
Method	Injection, 2nd segment above ground
Herbicide	RoundUp Pro Concentrate
Injection Dosage	**4 mL**
Area:	
Area Treated	
Total number of plants in area (rhizomic connection?)	18
Number of plants/stems actually treated	18
Plant Phenology:	
Plant phenology	In flower
Typical plant height	8'
Typical plant stem diameter	1"
Follow-up & Observations:	
Date	**August 11, 2005**
Observations	All canes brown and crispy.
(Two plots were set up -- Combined cane totals are given For a breakdown by plot see attached spreadsheet)	
Control percentage:	
Of plants/stems treated--Number controlled	18
Control percentage	100%
Number Plants Controlled:	
Total # of plants controlled (rhizomic connection?)	
Notes:	

Efficacy Trial Results On Bohemian Knotweed

6mL Roundup Pro Concentrate

Site name	East of Klineline Pond
Address	North of 117th St, between Hwy 99 and I-5
Plot #	
Reference #	
Treatment Date	**June 30, 2005**
Treatment Method:	
Method	Injection, 2nd segment above ground
Herbicide	RoundUp Pro Concentrate
Injection Dosage	**6 mL**
Area:	
Area Treated	
Total number of plants in area (rhizomic connection?)	412
Number of plants/stems actually treated	354
Plant Phenology:	
Plant phenology	In flower
Typical plant height	9'
Typical plant stem diameter	1"
Follow-up & Observations:	
Date	August 11, 2005
Observations	Nearly all injected canes are brown (348 of 354)
	Many small untreated canes also brown (24 0f 58)
(Seven plots were set up -- Combined cane totals are given For a breakdown by plot see attached spreadsheet)	
Control percentage:	
Of plants/stems treated--Number controlled	348
Control percentage	98%
Number Plants Controlled:	
Total # of plants controlled (rhizomic connection?)	372
Notes:	
Possibility that RoundUp Pro Concentrate transfers to small canes better than Aquamaster	

Efficacy Trial Results On Knotweed
Klineline, East Pond

Plot #		mL	# Canes	Cane Ht (ft)		Diameter (in)		INJ* on 7/14	Dead on 9/23	% Control
1		4	10	9.0		0.75		10	10	100%
2		1	1	1.5		0.25		1	1	100%
3		1	1	3.0		0.31		1	1	100%
4		1	1	3.5		0.38		1	1	100%
5		4	12	8.0		1.00		12	12	100%
6		5	6	8.0		1.25		6	6	100%
7		5	8	9.0		1.00		8	8	100%
8	a	5	12	7.0		0.75		12	12	100%
8	b	1	1	1.0		0.25		1	1	100%
9		1	2	3.0		0.31		2	2	100%
10		5	23	10.0		1.25		23	23	100%
11		4	8	7.0		1.00		8	8	100%

Plot #		mL	# Canes	Cane Ht (ft)		Diameter (in)		INJ* on 7/14	Dead on 9/23	% Control
6		5	6	8.0	48.0	1.25	7.50	6	6	100%
7		5	8	9.0	72.0	1.00	8.00	8	8	100%
8	a	5	12	7.0	84.0	0.75	9.00	12	12	100%
10		5	23	10.0	230.0	1.25	28.75	23	23	100%
					434.0		53.25			

5 mL		Avg Cane Ht		Avg Diameter		Total INJ	Total Dead
		8.9		1.09		49	49

Plot #		mL	# Canes	Cane Ht (ft)		Diameter (in)		INJ* on 7/14	Dead on 9/23	% Control
1		4	10	9.0	90.0	0.75	7.50	10	10	100%
5		4	12	8.0	96.0	1.00	12.00	12	12	100%
11		4	8	7.0	56.0	1.00	8.00	8	8	100%
					242.0		27.50			

4 mL		Avg Cane Ht		Avg Diameter		Total INJ	Total Dead
		8.1		0.92		30	30

Plot #		mL	# Canes	Cane Ht (ft)		Diameter (in)		INJ* on 7/14	Dead on 9/23	% Control
2		1	1	1.5	1.5	0.25	0.25	1	1	100%
3		1	1	3.0	3.0	0.31	0.31	1	1	100%
4		1	1	3.5	3.5	0.38	0.38	1	1	100%
8	b	1	1	1.0	1.0	0.25	0.25	1	1	100%
9		1	2	3.0	6.0	0.31	0.62	2	2	100%
					15.0		1.81			

1 mL		Avg Cane Ht		Avg Diameter		Total INJ	Total Dead
		2.5		0.30		6	6

*(*small canes treated by cut/fill method, using injection gun)*